FEDERAL BUREAU OF INVESTIGATION
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Total Deleted Page(s) = 1
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X    Deleted Page(s)     X
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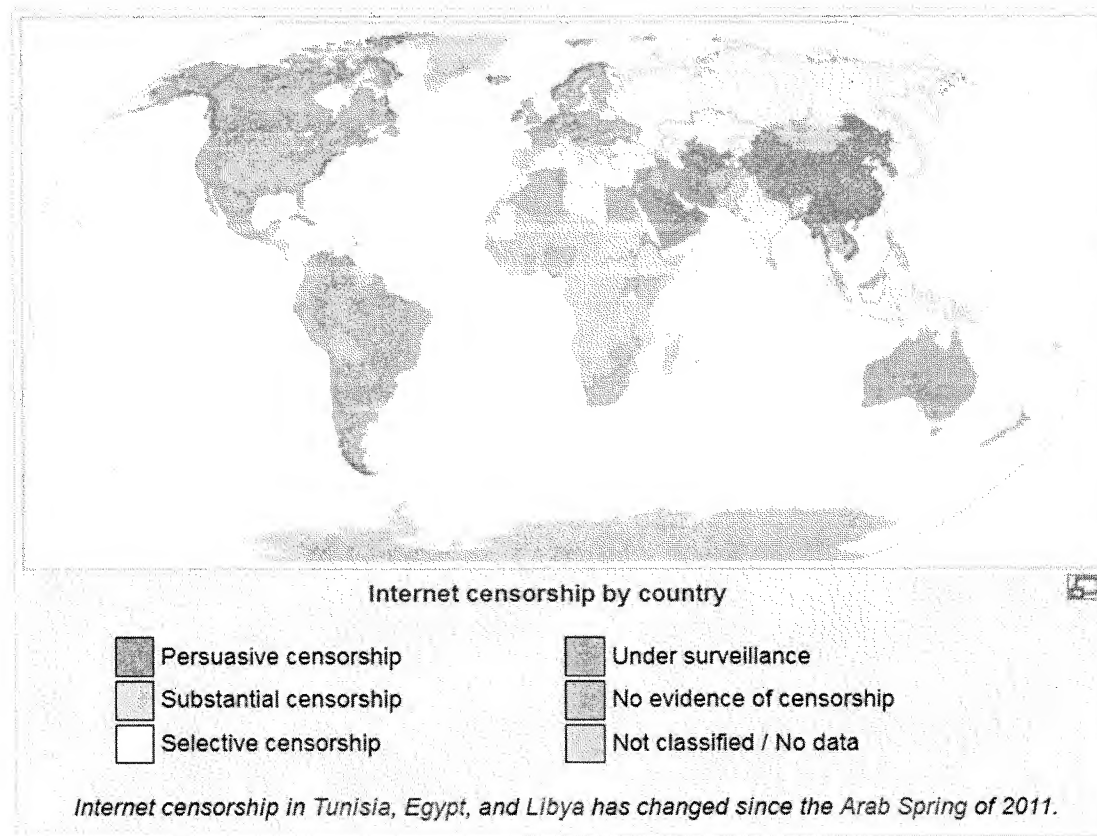
Federal Bureau of Investigation

Proxy Servers & Tor

Good Intentions...

- **Anonymity to security-conscious, whistle blowers, etc.**

- **Circumvent state-wide internet censorship**

Internet censorship by country

Persuasive censorship	Under surveillance
Substantial censorship	No evidence of censorship
Selective censorship	Not classified / No data

Internet censorship in Tunisia, Egypt, and Libya has changed since the Arab Spring of 2011.

Abusive/Criminal Use of Proxy Servers

- Proxies have been used to conduct:
  - Crimes against children
  - Exchange illegal documents and files (e.g., identity theft)
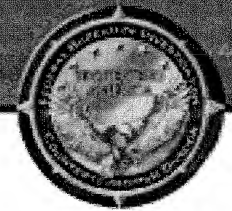 - Network intrusions
  - Spamming

Proxy Use by Extremists

- **Posts Warn About FBI Surveillance of Jihadist Websites (U//~~FOUO~~)**
    - On 6 August 2004, "abdalrhman24" on the *Arab Dialogue Forum* and "iraq123" on the *Al-Anbar Network*forum posted identical messages asking participants to be careful of "FBI-surveilled websites."
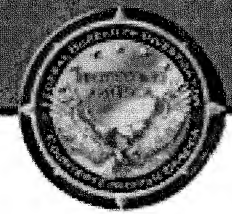   - The posts advised participants to use a proxy to avoid being detected and traced.

Proxy Use by Extremists

- **Poster Analyzes Jihadist Websites, Advises Participants (U//~~FOUO~~)**
  - October 10, 2005: ... for the internationally renowned al-Hisbah forum, ... Al-Hammam al-Battar of the *Islamic Renewal Organization's forum* stated: "I repeat to the members not to enter this site without a proxy, and to the administration of the website I urge you to cancel the feature of storing IP addresses because of the danger it poses to the supporters of jihad."

Pros and Cons of Tor

- Pros
  - Free service
  - Encrypted traffic (inside the Tor network)
  - Offers very good anonymity if properly configured
- Cons
  - Set-up can be difficult
  - Not ideal for certain applications (e.g., videos)
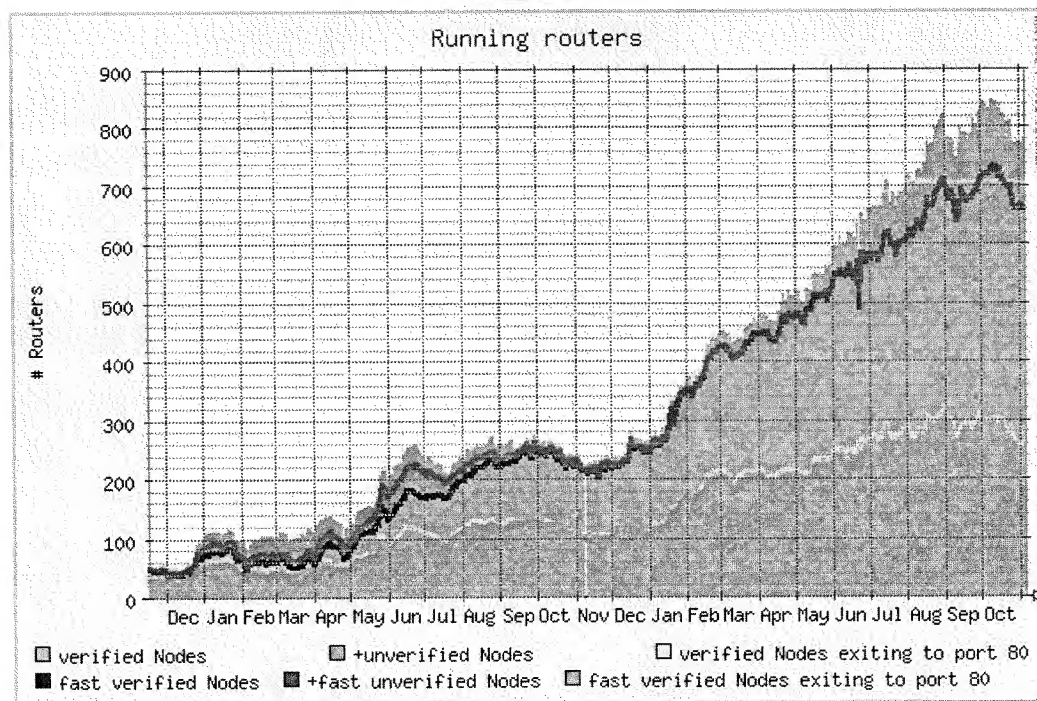 - Anonymity but not data security
  - Can be slow

Growth of Tor

Growth of Tor nodes from December 2004 to October 2006

The Onion Router

b7E

The Onion Router
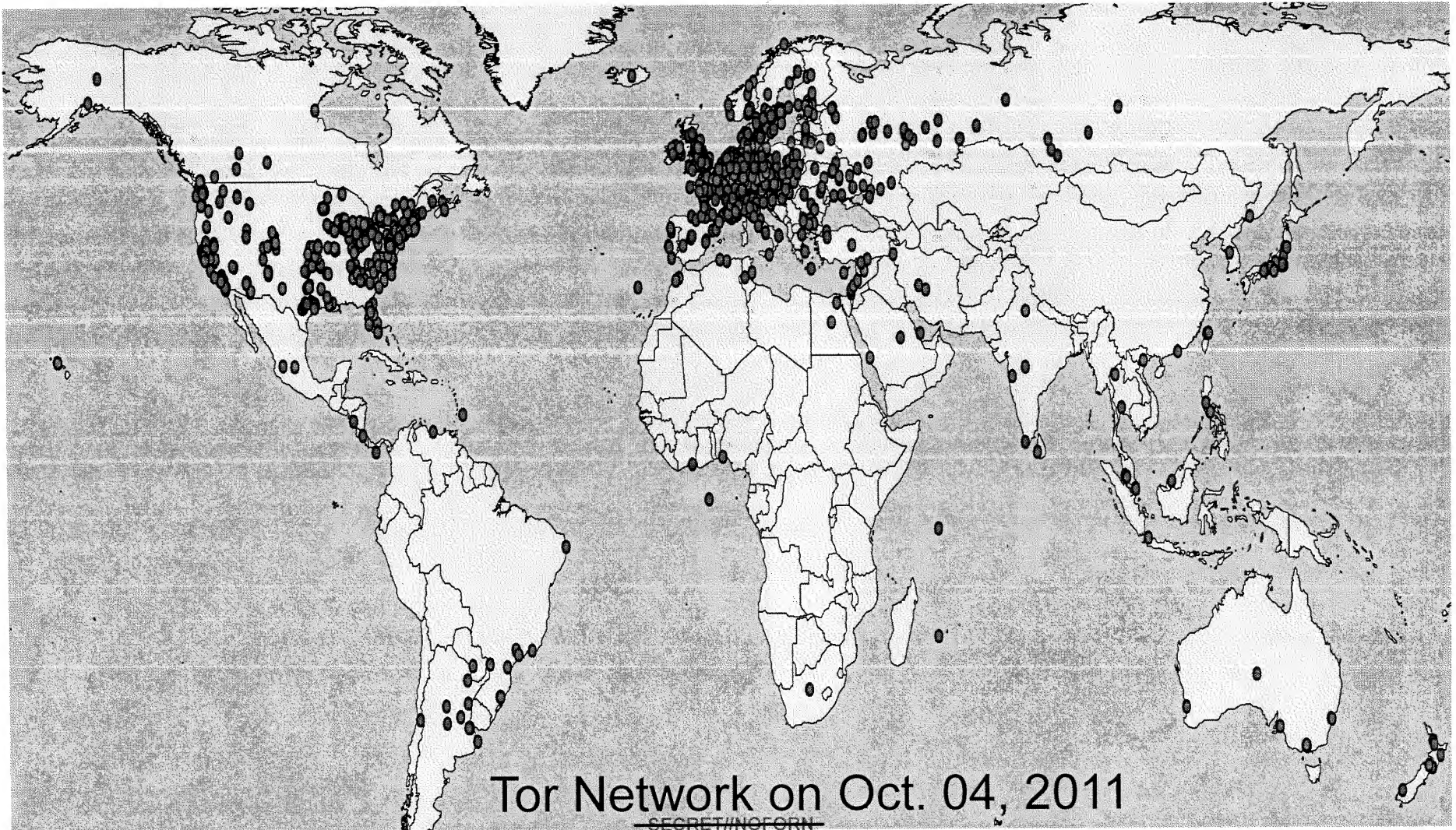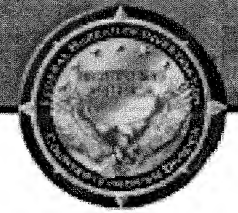
Tor Network on Oct. 04, 2011

Tor-Related Products

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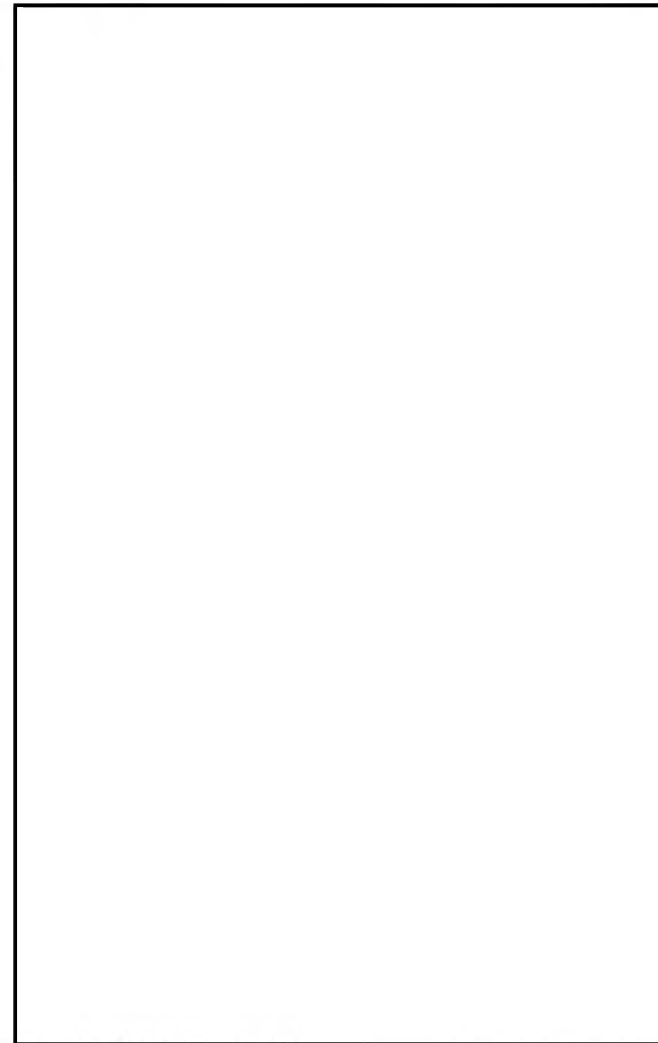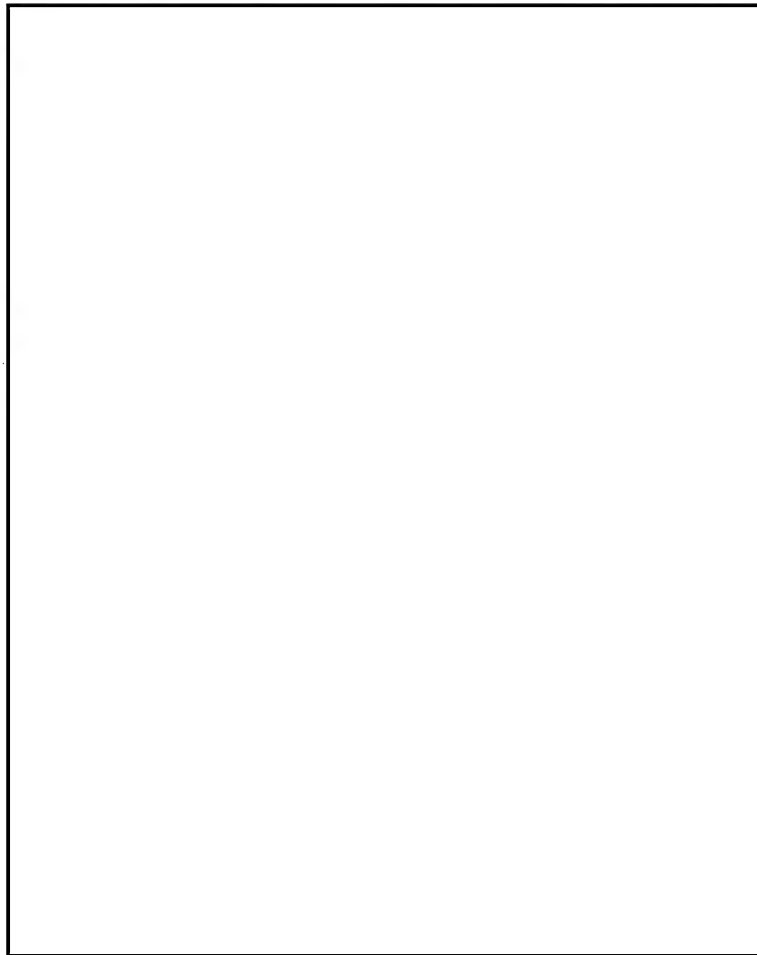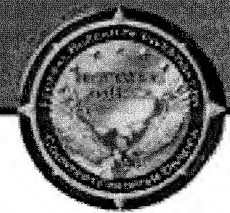
Tor's Hidden Services

- Hidden services – offer the possibility of various Web services within the Tor network

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Where are they?

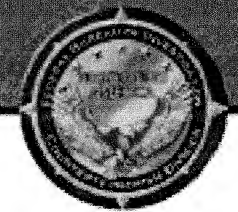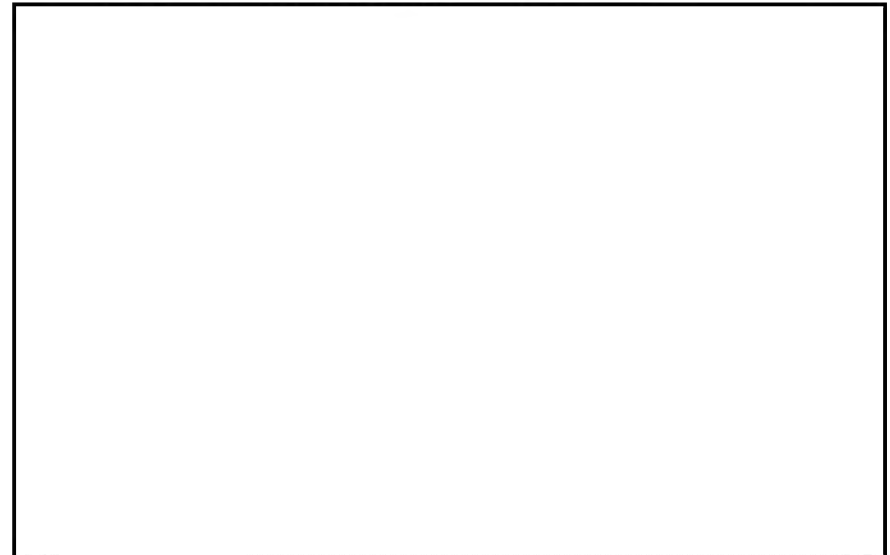**Why we might not be seeing increased Tor use by bad guys**

- The Human Factor
  - Forgetfulness
  - Lazy
  - Tor is slow
  - In-depth, detailed instructions typically are in English
  - Somewhat sophisticated

- The Technical Aspect

Until Next time

Questions?
Comments?